ESERCIZI IN PIÙ
LE ESPRESSIONI CON I MONOMI

Semplifica le seguenti espressioni.

1 $\left(-\frac{4}{3}ab\right)\left(-\frac{9}{4}a^2b\right):(-2ab)^2$ $\left[\frac{3}{4}a\right]$

2 $\left(-\frac{25}{9}x^3y^2z\right):\left(-\frac{10}{3}xy^2z\right)\cdot(6xy)^2$ $[30x^4y^2]$

3 $(-3a)^3\cdot\left[\frac{4}{3}a^2b^4:(-4a^2b)\right]^2$ $[-3a^3b^6]$

4 $\left[(+x)^2\left(-\frac{1}{2}xy^2-\frac{1}{3}xy^2-\frac{1}{6}xy^2\right)^2:(-xy)^3-\frac{3}{2}(-x^6y^2):(x^5y)\right]\left[5x^2\left(-\frac{1}{2}y\right)+\frac{5}{2}x^2y\right]$ $[0]$

5 $(2mnp)^2\cdot\left(\frac{1}{2}m\right)+m^3n^2p^2+(-3m^3np^2)(2n)-(5m^5n^4p^3):(-2m^2n^2p)+\left(\frac{1}{2}m^2p^2\right)(-3mn^2)$ $[-2m^3n^2p^2]$

6 $\left[(+x^3y^3)^3+\left(-\frac{2}{7}x^2y^2\right)^3\left(-\frac{7}{2}xy\right)^3\right]:(-2x^2y^2)^3+\frac{3}{2}x^3y^3$ $\left[\frac{5}{4}x^3y^3\right]$

7 $\left\{a^2b^2c+\left[-\left(-\frac{3}{2}a^2b^2c\right)-\frac{1}{2}a^2b^2c\right]\right\}:\left\{-\left[-\left(-\frac{1}{8}abc\right)+\left(-\frac{1}{2}abc\right)\right]\right\}$ $\left[\frac{16}{3}ab\right]$

8 $(-2a)\cdot\left(-\frac{3}{4}by\right)\cdot(0,\overline{6}\,ab^2y)\cdot\left(-\frac{5}{4}b^3xy\right)$ $\left[-\frac{5}{4}a^2b^6xy^3\right]$

9 $\left[2z-\left(-\frac{4}{3}z\right)+\left(\frac{3}{2}z\right)\right]-\left(-\frac{3}{4}x\right)-\left(-\frac{1}{3}z\right)+\left(-0,5x-\frac{1}{4}x\right)$ $\left[\frac{31}{6}z\right]$

10 $0,\overline{3}x^3y\cdot\left(\frac{3}{5}x\right)+\left(\frac{2}{5}y\right)\left(-\frac{1}{2}x^2\right)\cdot x^2+xy\cdot\left(-\frac{1}{5}\right)y+3xy^2$ $\left[\frac{14}{5}xy^2\right]$

11 $\frac{1}{9}a^2(-27b^3)+3a^2b^3-12a^2b^3-\frac{1}{3}a^2b^3+a^2(-2b^3)+a^2b^3+\left(-\frac{1}{3}b^3\right)a^2-\frac{1}{3}a^2b^3+\frac{1}{4}a^2b^3$ $\left[-\frac{55}{4}a^2b^3\right]$

12 $\left\{a^2b^2c+\left[-\frac{1}{2}a^2b^2c-\left(-\frac{3}{2}a^2b^2c\right)\right]\right\}:\left\{-\left[-(abc)+\left(-\frac{1}{8}abc\right)\right]\right\}$ $\left[\frac{16}{9}ab\right]$

13 $-\frac{2}{3}a^2b(-0,2bc)\cdot\left(-\frac{5}{4}b^3c^2\right)-\frac{3}{4}b^2c\left(-\frac{2}{3}b^3c^2\right)(-a^2)$ $\left[-\frac{2}{3}a^2b^5c^3\right]$

14 $[(-2abx^3)\cdot(-5abx):(-bx)^2]:\left[\frac{5}{3}a^3b^2x:\left(-\frac{1}{3}ab\right)^2\right]$ $\left[\frac{2}{3}ax\right]$

15 $\left[\left(-\frac{7}{5}bx^3\right)^2:(-2x^2)^3\right]\cdot\left[-\left(-\frac{5}{7}\right)^2\right]+(-b^2)-\left(-\frac{4}{7}b^4x^2\right):\left(-\frac{8}{21}b^2x^2\right)$ $\left[-\frac{19}{8}b^2\right]$

16 $a^6x-x\cdot\{[-(a^4y^7)^3]^2:a^{18}y^{42}\}-x^2y^3:[2bx^6y:b(x^2)^3]+\frac{1}{2}x^2y^2$ $[0]$

17 $\left(-\frac{5}{4}x^2y\right)^3(0,8x^2)^2 - (-2x^2)^3\left(\frac{1}{3}x^2y\right)\left(-\frac{3}{2}xy\right)^2$ $\left[\frac{19}{4}x^{10}y^3\right]$

18 $\left[(2xy-3xy)^3 - (5xy-3xy)^4 : (-4xy) + (-2x^5y^5) : \left(\frac{1}{2}xy+\frac{1}{2}xy\right)^2\right] : \left(-\frac{1}{2}x\right)^3$ $[-8y^3]$

19 $\left(\frac{1}{2}xy^3 - 2xy^3\right)^2 : (13x^2y^4 - 4x^2y^4) + \left(\frac{1}{2}y^2 - \frac{4}{5}y^2\right)^2 : \left(-\frac{1}{10}y^2\right)$ $\left[-\frac{13}{20}y^2\right]$

20 $(3x)^2 : (-5x) + \left\{\left[(2xy)\left(-\frac{1}{2}x\right)(-x)^2 - \left(\frac{1}{5}x^5y^2\right) : (-2xy)\right] : \left(\frac{1}{2}x\right)\right\} : (-2x^2y)$ $\left[-\frac{9}{10}x\right]$

21 $\left[\left(-\frac{2}{3}ab^3\right)^2 \cdot a^2b - \left(\frac{1}{3}a^6b^8\right) : \left(-\frac{3}{2}a^2b\right)\right] : \left(\frac{2}{3}a^3b^5\right) + (-2ab)\left(-\frac{1}{3}b\right) + \left(\frac{5}{6}a^4b^5\right) : \left(-\frac{5}{6}a^3b^3\right)$ $\left[\frac{2}{3}ab^2\right]$

22 $2,\overline{6}a^4b + 3,4ab^4 - 3,\overline{6}a^4b + 1,\overline{3}a^4b + 4,6ab^4 - 9,\overline{3}ab^4$ $\left[\frac{1}{3}a^4b - \frac{4}{3}ab^4\right]$

23 $\left\{\left[\left(-\frac{6}{7}a^2b\right)^3 \cdot \left(-\frac{6}{7}a^2b\right)^5 \cdot \left(-\frac{6}{7}a^2b\right)^0\right]^4 : \left[\left(-\frac{6}{7}a^2b\right)^2\right]^{11}\right\} : \left(-\frac{6}{7}a^2b\right)^8$ $\left[\frac{36}{49}a^4b^2\right]$

24 $\left(-\frac{3}{2}ax^2y\right)^2 : \left\{\left(-\frac{2}{5}a^2b\right) : \left(\frac{1}{5}ab\right) - [-6a^3b^3 : (-b)^2] : (3a^2b)\right\}$ [impossibile]

25 $\{[(-ab^3c)^2 \cdot (ab^3c)^5 \cdot (-ab^3c)]^7\}^8 : \{[(-ab^3c)^8]^7\}^8 - \left[\left(-\frac{2}{3}a^3\right)^2 \cdot (-a)^2\right] : \left(\frac{2}{3}a^4\right)^2$ $[0]$

26 $-abc(-4ac) \cdot \left(-\frac{1}{2}a^2b^3\right) + 14ab^2(-2a^2bc^2) \cdot \left(-\frac{3}{7}ab\right) - (4a^2b^2c)^2$ $[-6a^4b^4c^2]$

27 $\left(-\frac{1}{2}a^3xy\right) - \left(\frac{1}{3}a^3xy\right) - (0,\overline{4}a^2x^2) + \left(\frac{5}{6}a^3xy\right) - \left(-\frac{5}{9}a^2x^2\right)$ $\left[\frac{1}{9}a^2x^2\right]$

28 $[(0,\overline{3}a^3b - 0,\overline{2}a^3b) \cdot (-b^3 + 0,5b^3) \cdot (ab^2 + 4ab^2)] : (-0,\overline{3}a^3b + 0,\overline{4}a^3b)$ $\left[-\frac{5}{2}ab^5\right]$

29 $\left[\left(\frac{7}{9}x^2y^3\right)^4 \cdot \left(\frac{6}{7}x^3y\right)^4 : \left(\frac{4}{3}x^3y^3\right)^4 - \left(-\frac{x^3y^2}{2}\right)^2 \cdot (-x^2)\right] : \left(-\frac{5}{4}x^2y\right)^3$ $\left[-\frac{4}{25}x^2y\right]$

30 $\left(-\frac{3}{5}ab\right)^2 \cdot (-b)^2 \cdot \left(-\frac{5}{3}a^4c^4\right)^3 - \left[\left(-\frac{2}{3}ac^2\right)^3\right]^2 \cdot (-3a^2b)^4 - (-2a^7bc)^2 \cdot \left(-\frac{2}{3}bc^5\right)^2$ $\left[-\frac{95}{9}a^{14}b^4c^{12}\right]$